UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,454	11/08/1999	ROBERT KUTKA	P99.2301	6761

26574   7590   04/28/2005

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EXAMINER
WONG, ALLEN C

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 November 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>27-52</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>27-52</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 11/26/04 have been fully read and considered but they are not persuasive.

Regarding lines 6-9 on page 6 of applicant's remarks, applicant states that Wober does not disclose meet the deficiencies of Pullen so as to obviate the present invention in that Wober does not disclose the grouping picture elements of a digitized image into a number of image segments based solely from the digitized image itself. The examiner respectfully disagrees. Wober's element 10 of fig.1B acquires the digital image and element 12 segments the digital image to produce the segmented digitized image to have a mathematically defined region as shown in fig.2. Wober discloses the mathematical filtering and the interpolating of the group of digitized image blocks via the discrete cosine transform and the filtering processes, via elements 16, 18, 22, 24 and 26, occurring within the digitized image itself. Later, Wober discloses the resulting image at element 28 of fig.1, having gone through a series of processes to where the high resolution digital image, is derived from the same low resolution digital image from element 10. Thus, Wober teaches the number of image segments based on a mathematically defined region of the digitized image is derived solely from the digitized image itself. It would have been obvious to one of ordinary skill in the art to take the teachings of Pullen and Wober, as a whole, for implementing Wober system of improving data image resolution with Pullen's image compression/decompression system so as to overall improve image quality at the receiving end in order to display

high quality images even if the image data transmitted was originally from low quality

image data, as disclosed in col.2, ln.33-37.

Regarding lines 17-22 on page 7 of applicant's remarks, applicant asserts that

Wober does not deal with the issue of compression like the Pullen and the present

invention. The examiner respectfully disagrees. It has been held that a prior art

reference must either be in the field of applicant's endeavor or, if not, then be

reasonably pertinent to the particular problem with which the applicant was concerned,

in order to be relied upon as a basis for rejection of the claimed invention. See In re

Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). Wober and Pullen are used

in the same image processing and analysis environment. Further, Wober also deals

with compression, as disclosed in lines 60-64 where Wober discloses the use of DCT or

discrete cosine transforms with either MPEG or JPEG image compression standards.

Thus, Wober does pertain to compression just like Pullen and the present invention.

Therefore, the combination of Pullen and Wober is considered reasonable because both

teachings pertain to compression and image processing & analysis environments.

Regarding lines 6-11 on page 8 of applicant's remarks, applicant mentions that

there is no motivation for one of ordinary skill in the art to combine the teachings of

Pullen and Wober. The examiner respectfully disagrees. In response to applicant's

argument that there is no suggestion to combine the references, the examiner

recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some

teaching, suggestion, or motivation to do so found either in the references themselves

or in the knowledge generally available to one of ordinary skill in the art. See In re Fine,

837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and In re Jones, 958 F.2d 347, 21

USPQ2d 1941 (Fed. Cir. 1992). In this case, It would have been obvious to one of

ordinary skill in the art to take the teachings of Pullen and Wober, as a whole, for

implementing Wober system of improving data image resolution with Pullen's image

compression/decompression system so as to overall improve image quality at the

receiving end in order to display high quality images even if the image data transmitted

was originally from low quality image data, as disclosed in col.2, ln.33-37.

Regarding lines 6-10 on page 9 of applicant's arguments, applicant contends that

since the combination of Pullen and Wober does not teach the grouping picture

elements of a digitized image into a number of image segments based solely from the

digitized image itself, Girod does not teach or suggest the low pass filtering. The

examiner respectfully disagrees. Since Wober meets the deficiencies of Pullen in that

Wober discloses the "grouping picture elements of a digitized image into a number of

image segments based solely from the digitized image itself", Girod's element 403 of

fig.4 teaches the use of low-pass image filtering (fig.4, element 403). Therefore, it

would have been obvious to one of ordinary skill in the art to combine the teachings of

Pullen and Girod for applying the use of a low-pass image filter to trim out discrepancies

so as to efficiently encode images while maintaining accuracy. Doing so would yield

smooth images at the display output.

Regarding lines 20-24 on page 9 of applicant's remarks, applicant asserts that

since the combination of Pullen and Wober does not teach the grouping picture

elements of a digitized image into a number of image segments based solely from the

digitized image itself, Kwan does not teach the H.245 standard. The examiner

respectfully disagrees. On the Office Action dated 8/18/04, the examiner relies on

Sebestyen (WO 96/32717), not Kwan, to teach the H.245 standard, as shown in

Sebestyen's abstract and fig.1. Therefore, it would have been obvious to one of

ordinary skill in the art to take the teachings of Pullen and Sebestyen as a whole for

employing the H.245 standard so as to accurately encode images in an efficient

manner, while maintaining with today's highly complex video encoding/decoding

standards.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

1.   Claim 27-29, 35-40, 42-44, 46-50 and 52 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Pullen (5,867,221) in view of Wober (5,748,792).

Regarding claim 28, Pullen discloses a method for encoding and decoding a

digitized image having picture elements, said method comprising the steps of:

grouping all except at least one picture at least one picture elements of said

digitized image into a number of image segments in a first arrangement, said at least

one ungrouped picture element being from at least one area of said image located

between image segments (note fig.1, elements 16, 12, 28, 30 and 32 comprise a first

arrangement, where fig.1, element 12 is a compression processor unit having present

frame memory 16 and previous frame memory 30, a local decompressor 28 and vector

quantization table 32, where at least one pixilated image area is located and obtained

by gathering only the pixilated data difference between the current frame and the

previous frame and preparing the transmission of the pixilated data difference, and the

unchanged pixilated data is not sent for conserving bandwidth; col.11, ln.53 to col.12,

ln.28);

encoding said image in said first arrangement by only encoding said picture

elements being grouped into an image segment (fig.1, element 12);

transmitting said encoded image segments from said first arrangement to a

second arrangement (fig.1, element 14 is a transmitter, where the interconnected

elements 18, 20, 32 and 24 comprise a second arrangement);

decoding said transmitted image segments in said second arrangement (fig.1,

element 20);

inserting new picture elements corresponding to said non-encoded picture

elements of said encoded image in said second arrangement in an area between said

decoded image segments (col.8, lines 43-48; fig.1, note image data is decoded at

element 20 into map codes and then utilized for inserting new picture elements to the

non-encoded picture elements);

interpolating said area between said image segments in said second

arrangement (fig.1, note elements 20, 24 and 32 function to interpolate the area

between the image segments, where 32 is the vector quantization tables); and

allocating encoding information resulting from said interpolating to said new

picture elements (fig.1, note elements 20, 24 and 32 function to interpolate the area

between the image segments, where 32 is the vector quantization tables and element is

the regenerated frame buffer, thus the encoding information is allocated).

Although Pullen does not specifically disclose the limitation based on a

mathematically defined region of said digitized image derived solely from said digitized

image itself. However, Wober teaches the number of image segments based on a

mathematically defined region of the digitized image is derived solely from the digitized

image itself (fig.1B, note acquisition of digital image is done by element 10 and

segmentation of the digital image is done by element 12 to obtain segmented digitized

image to have a mathematically defined region as shown in fig.2, which illustrates a

gathering of digitized image blocks that is subjected to mathematical filtering and

interpolation processes, ie. the discrete cosine transform and the filtering processes via

elements 16, 18, 22, 24 and 26, that is confined within the digitized image itself, and at

element 28, the resulting image has gone through a series of processes to where the

high resolution digital image is derived from the same low resolution digital image from

element 10). Therefore, it would have been obvious to one of ordinary skill in the art to

take the teachings of Pullen and Wober, as a whole, for implementing Wober system of

improving data image resolution with Pullen's image compression/decompression

system so as to overall improve image quality at the receiving end in order to display

high quality images even if the image data transmitted was originally from low quality

image data (col.2, ln.33-37).

Note claims 27, 43-44 and 46 have similar corresponding elements.

Regarding claim 29, Pullen discloses image filtering (col.6, lines 55-58).

Regarding claims 35-36, Pullen discloses the image segments are image blocks (see figs.3-5 and 8).

Regarding claims 37-39 and 47-49, Pullen discloses the use of filters for interpolation (col.20, ln.54 to col.21, ln.19).

Regarding claims 40 and 50, Pullen discloses the H.263 video encoding standard (col.1, lines 39-43, Pullen discloses the MPEG encoding).

1.   Regarding claims 42 and 52, Pullen discloses the use of motion compensation (col.8, lines 48-55).

2.   Claims 30-34 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pullen (5,867,221), Wober (5,748,792) and further in view of Girod (5,854,858).

Regarding claims 30-34 and 45, Pullen discloses image filtering prior to encoding (col.6, lines 55-58). Pullen does not specifically disclose the low-pass filtering of images. However, Girod teaches the use of low-pass image filtering (fig.4, element 403). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Pullen and Girod for applying the use of a low-pass image filter to trim out discrepancies so as to efficiently encode images while maintaining accuracy. Doing so would yield smooth images at the display output.

3.   Claims 41 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pullen (5,867,221), Wober (5,748,792) and further in view of Sebestyen (WO 96/32717).

With regards to claims 41 and 51, Pullen discloses the H.263 video encoding

standard (col.1, lines 39-43, Pullen discloses the MPEG encoding). Pullen does not

disclose the use of H.245 standard. However, Sebestyen teaches the use of H.245

standard along with H.263 standard (see abstract and fig.1). Therefore, it would have

been obvious to one of ordinary skill in the art to take the teachings of Pullen and

Sebestyen as a whole for employing the H.245 standard so as to accurately encode

images in an efficient manner, while maintaining with today's highly complex video

encoding/decoding standards.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Allen Wong whose telephone number is (571) 272-7341.

The examiner can normally be reached on Mondays to Thursdays from 8am-6pm

Flextime.   .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Allen   Wong
Primary Examiner
Art Unit 2613

AW
4/26/05